We claim:

1. Isolated nucleic acid molecule which encodes a cancer associated antigen, whose amino acid sequence is identical to the amino acid sequence encoded by the nucleotide sequence of SEQ ID NO: 1, 3, 4, 8 or 15.

2. The isolated nucleic acid molecule of claim 1, comprising the nucleotide sequence of SEQ ID NO: 1.

3. The isolated nucleic acid molecule of claim 1, comprising the nucleotide sequence of SEQ ID NO: 3.

4. The isolated nucleic acid molecule of claim 1, comprising the nucleotide sequence of SEQ ID NO: 4.

5. The isolated nucleic acid molecule of claim 1, comprising the nucleotide sequence of SEQ ID NO: 8.

6. The isolated nucleic acid molecule of claim 1, comprising the nucleotide sequence of SEQ ID NO: 15.

7. Expression vector comprising the isolated nucleic acid molecule of claim 1, operably linked to a promoter.

8. Eukaryotic cell line or prokaryotic cell strain, transformed or transfected with the expression vector of claim 7.

9. Isolated cancer associated antigen comprising all or part of the amino acid sequence encoded by SEQ ID NO: 1, 3, 4, 8 or 15.

10. Eukaryotic cell line or prokaryotic cell strain, transformed or transfected with the isolated nucleic acid molecule of claim 1.

11. The eukaryotic cell line or prokaryotic cell strain of claim 10, wherein said cell line is also transfected with a nucleic acid molecule coding for a cytokine.

12. The eukaryotic cell line or prokaryotic cell strain of claim 11, wherein said cell line is further transfected by a nucleic acid molecule coding for an MHC molecule.

13. The eukaryotic cell line or prokaryotic cell strain of claim 11, wherein said cytokine is an interleukin.

14. The eukaryotic cell line or prokaryotic cell strain of claim 13, wherein said interleukin is IL-2, IL-4 or IL-12.

15. The eukaryotic cell line or prokaryotic cell strain of claim 10, wherein said cell line has been rendered non-proliferative.

16. The eukaryotic cell line of claim 10, wherein said cell line is a fibroblast cell line.

17. Expression vector comprising a mutated or attenuated virus and the isolated nucleic acid molecule of claim 1.

18. The expression vector of claim 17, wherein said virus is adenovirus or vaccinia virus.

19. The expression vector of claim 18, wherein said virus is vaccinia virus.

20. The expression vector of claim 18, wherein said virus is adenovirus.

21. Expression system useful in transfecting a cell, comprising (i) a first vector containing a nucleic acid molecule which codes for the isolated cancer associated antigen of claim 10 and (ii) a second vector selected from the group consisting of (a) a vector containing a nucleic acid molecule which codes for an MHC or HLA molecule which presents an antigen derived from said cancer associated antigen and (b) a vector containing a nucleic acid molecule which codes for an interleukin.

22. Immunogenic composition comprising the isolated cancer antigen of claim 9, and a pharmaceutically acceptable adjuvant.

23. The immunogenic composition of claim 22, wherein said adjuvant is a cytokine, a saponin, or GM-CSF.

24. Immunogenic composition comprising at least one peptide consisting of an amino acid sequence of from 8 to 12 amino acids concatenated to each other in the isolated cancer associated cancer antigen of claim ~~10~~ 9, and a pharmaceutically acceptable adjuvant.

25. The immunogenic composition of claim 24, wherein said adjuvant is a saponin, a cytokine, or GM-CSF.

26. The immunogenic composition of claim 23, wherein said composition comprises a plurality of peptides which complex with a specific MHC molecule.

27. Immunogenic composition which comprises at least one expression vector which encodes a peptide derived from the amino acid sequence encoded by SEQ ID NO: 1, 3, 4, 8 or 15.

28. The immunogenic composition of claim 27, wherein said at least one expression vector codes for a plurality of peptides.

29. Vaccine useful in treating a subject afflicted with a cancerous condition comprising the isolated eukaryotic cell line of claim 10 and a pharmacologically acceptable adjuvant.

30. The vaccine of claim 29, wherein said eukaryotic cell line has been rendered non-proliferative.

31. The vaccine of claim 30, wherein said eukaryotic cell line is a human cell line.

32. A composition of matter useful in treating a cancerous condition comprising a non-proliferative cell line having expressed on its surface a peptide derived from the amino acid sequence encoded by SEQ ID NO: 1, 3, 4, 8 or 15.

33. The composition of matter of claim 32, wherein said cell line is a human cell line.

34. A composition of matter useful in treating a cancerous condition, comprising (i) a peptide derived from the amino acid sequence encoded by SEQ ID NO: 1, 3, 4,8 or 15, (ii) an MHC or HLA molecule, and (iii) a pharmaceutically acceptable carrier.

35. Isolated antibody which is specific for the cancer antigen of claim 9.

36. The isolated antibody of claim 35, wherein said antibody is a monoclonal antibody.

37. Method for screening for cancer in a sample, comprising contacting said sample with a nucleic acid molecule which hybridizes to all or part of the molecule encoded by SEQ ID NO: 1, 2, 3, 4, 8 or 15 and determining hybridization as an indication of cancer cells in said sample.

38. A method for screening for cancer in a sample, comprising contacting said sample with the isolated antibody of claim 35, and determining binding of said antibody to a target as an indicator of cancer.

39. Method for diagnosing a cancerous condition in a subject, comprising contacting an immune reactive cell containing sample of said subject to a cell line transfected with the isolated nucleic acid molecule of claim 1, and determining interaction of said transfected cell line with said immunoreactive cell, said interaction being indicative of said cancer condition.

40. A method for determining regression, progression of onset of a cancerous condition comprising monitoring a sample from a patient with said cancerous condition for a

parameter selected from the group consisting of (i) a protein encoded by SEQ ID NO: 1, 2, 3, 4, 8 or 15, (ii) a peptide derived from said protein, (iii) cytolytic T cells specific for said peptide and an MHC molecule with which it non-covalently complexes, and (iv) antibodies specific for said CT protein, wherein amount of said parameter is indicative of progression or regression or onset of said cancerous condition.

41. The method of claim 40, wherein said sample is a body fluid or exudate.

42. The method of claim 40, wherein said sample is a tissue.

43. The method of claim 40, comprising contacting said sample with an antibody which specifically binds with said protein or peptide.

44. The method of claim 43, wherein said antibody is labelled with a radioactive label or an enzyme.

45. The method of claim 43, wherein said antibody is a monoclonal antibody.

46. The method of claim 40, comprising amplifying RNA which codes for said protein.

47. The method of claim 46, wherein said amplifying comprises carrying out polymerase chain reaction.

48. The method of claim 40, comprising contacting said sample with a nucleic acid molecule which specifically hybridizes to a nucleic acid molecule which codes for or expresses said protein.

49. The method of claim 49, wherein said nucleic acid molecule comprises SEQ ID NO: 9, 10, 11, 12, 13, 14, 17 or 18.

50. The method of claim 40, comprising assaying said sample for shed protein.

51. The method of claim 40, comprising assaying said sample for antibodies specific for said protein, by contacting said sample with protein.

52. Method for diagnosing a cancerous condition comprising assaying a sample taken from a subject for an immunoreactive cell specific for a peptide derived from a protein encoded by SEQ ID NO: 1, 2, 3, 4, 8 or 15, complexed to an MHC molecule, presence of said immunoreactive cell being indicative of said cancerous condition.

53. Composition comprising at least one peptide consisting of an amino acid sequence of from 8 to 25 amino acids concatenated to each other in the isolated cancer associated antigen of claim 9, and a pharmaceutically acceptable adjuvant.

54. The composition of claim 53, wherein said adjuvant is a saponin, a cytokine, or GM-CSF.

55. The composition of claim 53, comprising a plurality of MHC binding peptides.

56. Composition comprising an expression vector which encodes at least one peptide consisting of an amino acid sequence of from 8 to 25 amino acids concatenated to each other in the isolated cancer associated antigen of claim 9, and pharmaceutically acceptable adjuvant.

57. The composition of claim 56, wherein said expression vector encodes a plurality of peptides.

58. A method for screening for possible presence of a pathological condition, comprising assaying a sample from a patient believed to have a pathological condition for antibodies specific to at least one of the cancer associated antigens encoded by SEQ ID NOS: 1, 2, 3, 4, 8, or 15, presence of said antibodies being indicative of possible presence of said pathological condition.

59. The method of claim 58, wherein said pathological condition is cancer.

60. The method of claim 58, wherein said cancer is melanoma.

61. The method of claim 60, further comprising contacting said sample to purified cancer associated antigen encoded by SEQ ID NO: 1, 3, 4, 8, or 15.

62. A method for screening for possible presence of a pathological condition in a subject, comprising assaying a sample taken from said subject for expression of a nucleic acid molecule, the nucleotide sequence of which comprises SEQ ID NO: 1, 2, 3, 4, 8 or 15, expression of said nucleic acid molecule being indicative of possible presence of said pathological condition.

63. The method of claim 62, wherein said pathological condition is cancer.

64. The method of claim 62, comprising determining expression via polymerase chain reaction.

65. The method of claim 62, comprising determining expression by contacting said sample with at least one of SEQ ID NO: 9, 10, 11, 12, 13 or 14.

66. A method for determining regression, progression of onset of a cancerous condition comprising monitoring a sample from a patient with said cancerous condition for a parameter selected from the group consisting of (i) a cancer associated antigen encoded by SEQ ID NO: 1, 2, 3, 4,8 or 15 (ii) a peptide derived from said cancer associated antigen, (iii) cytolytic T cells specific for said peptide and an MHC molecule with which it non-covalently complexes, and (iv) antibodies specific for said cancer associated antigen, wherein amount of said parameter is indicative of progression or regression or onset of said cancerous condition.

67. The method of claim 66, wherein said sample is a body fluid or exudate.

68. The method of claim 66, wherein said sample is a tissue.

69. The method of claim 66, comprising contacting said sample with an antibody which specifically binds with said protein or peptide.

70. The method of claim 69, wherein said antibody is labelled with a radioactive label or an enzyme.

71. The method of claim 69, wherein said antibody is a monoclonal antibody.

72. The method of claim 66, comprising amplifying RNA which codes for said protein.

73. The method of claim 72, wherein said amplifying comprises carrying out polymerase chain reaction.

74. The method of claim 66, comprising contacting said sample with a nucleic acid molecule which specifically hybridizes to a nucleic acid molecule which codes for or expresses said protein.

75. The method of claim 66, comprising assaying said sample for shed cancer associated antigen.

76. The method of claim 66, comprising assaying said sample for antibodies specific for said cancer associated antigen, by contacting said sample with said cancer associated antigen.

77. Method for screening for a cancerous condition comprising assaying a sample taken from a subject for an immunoreactive cell specific for a peptide derived from a cancer associated antigen encoded by SEQ ID NO: 1, 2, 3, 4, 8, or 15 complexed to an MHC molecule, presence of said immunoreactive cell being indicative of said cancerous condition.

78. An isolated nucleic acid molecule consisting of a nucleotide sequence defined by SEQ ID NO: 1, 2, 3, 8, or 15.

79. Isolated nucleic acid molecule the complimentary sequence of which hydridizes, under stringent conditions, to the nucleotide sequence set forth in SEQ ID NO: 4, 5, 8, or 15.